

Claims

- SUB C17
- [c1] 1. A system for analyzing the transfer of data across communication channels utilizing different protocols comprising:
a data processor; and
a plurality of interfaces coupled to the data processor, wherein each interface is configured to be coupled to one of the communication channels;
wherein the data processor is configured
to receive data formatted according to a first protocol via a first one of the interfaces,
to identify the data formatted according to the first protocol,
to receive data formatted according to a second protocol via a second one of the interfaces,
to identify the data formatted according to the second protocol, and
to verify that the data formatted according to the second protocol corresponds to the data formatted according to the first protocol.
- [c2] 2. The system of claim 1 wherein the data processor is further configured to present to a user an indication of whether the data formatted according to the second protocol corresponds to the data formatted according to the first protocol.
- [c3] 3. The system of claim 1 wherein the data processor comprises a personal computer (PC).
- [c4] 4. The system of claim 3 wherein the PC comprises a peripheral component interconnect (PCI) bus, and wherein the plurality of interfaces comprise a plurality of interface cards which are coupled to the PCI bus.
- [c5] 5. The system of claim 1 wherein the data processor is further configured to receive data formatted according to a third protocol via one of the interfaces, to identify the data formatted according to the third protocol, and to verify that the data formatted according to the third protocol corresponds to the data formatted according to the first or second protocols.

- [c6] 6.The system of claim 1 wherein the data processor is configured to emulate a response to the data formatted according to the second protocol.
- [c7] 7.The system of claim 6 wherein the response comprises an indication of an error.
- [c8] 8.The system of claim 1 wherein the data processor is configured to verify that the data formatted according to the second protocol corresponds to the data formatted according to the first protocol by comparing a data payload of the data formatted according to the second protocol and a data payload of the data formatted according to the first protocol to determine whether the data payloads match.
- [c9] 9.The system of claim 1 wherein the data processor is configured to verify that the data formatted according to the second protocol corresponds to the data formatted according to the first protocol by comparing a data payload of the data formatted according to the second protocol and the data formatted according to the first protocol to determine whether the data payload of the data formatted according to the second protocol is identical to the data formatted according to the first protocol.
- [c10] 10.The system of claim 1 wherein the data processor is configured to decode at least a portion of the data formatted according to the first or second protocols, to interpret the portion of the data, and to display the interpretation to a user.
- [c11] 11.The system of claim 1 wherein the data processor is configured to verify that the data formatted according to the second protocol corresponds to the data formatted according to the first protocol automatically.
- [c12] 12.The system of claim 1 further comprising a data storage unit, wherein the system is configured to store one or more of the analyzed data packets.
- [c13] 13.The system of claim 12 wherein the data processor is configured to perform one or more analyses on the stored data packets.

[c14]

14.A system comprising:

a data processor; and

one or more data interfaces coupled to the data processor;

wherein the data processor is configured to receive data formatted according to at least a first protocol and a second protocol via the data interfaces; and wherein the data processor is further configured to compare the data formatted according to first protocol to the data formatted according to the second protocol and to verify that the data formatted according to second protocol accurately represents the data formatted according to the first protocol.

[c15]

15.A method for verifying conversion of data between protocols comprising:

identifying data formatted according to a first protocol;

identifying corresponding data which has been formatted according to a second protocol; and

verifying that the data formatted according to the second protocol comprises an accurate representation of the data formatted according to the first protocol.

[c16]

16.The method of claim 15 further comprising converting the data formatted according to the first protocol into the data formatted according to the second protocol.

[c17]

17.The method of claim 16 wherein converting the data formatted according to the first protocol into the data formatted according to the second protocol comprises identifying a data payload of the data formatted according to the first protocol and formatting the data payload according to the second protocol.

[c18]

18.The method of claim 16 wherein converting the data formatted according to the first protocol into the data formatted according to the second protocol comprises encapsulating the data formatted according to the first protocol as a data payload of the data formatted according to the second protocol.

- (c1)
- [c19] 19.The method of claim 15 further comprising identifying corresponding data which has been formatted according to a third protocol and verifying that the data formatted according to the third protocol comprises an accurate representation of the data formatted according to the first or second protocols.
- [c20] 20.The method of claim 19 further comprising converting the data formatted according to the second protocol into the data formatted according to the third protocol.
- [c21] 21.The method of claim 15 further comprising providing to a user an indication of whether the data formatted according to the second protocol comprises an accurate representation of the data formatted according to the first protocol.
- [c22] 22.The method of claim 15 further comprising emulating a reply to the data formatted according to the second protocol.
- [c23] 23.The method of claim 22 wherein the reply comprises an error indication.
- [c24] 24.The method of claim 15 further comprising storing one or more packets formatted according to at least one of the first and second protocols.
- [c25] 25.The method of claim 24 further comprising performing one or more analyses on the stored packets.
- [c26] 26.A method comprising:
identifying data formatted according to a first protocol;
converting the data to a second protocol;
identifying the data formatted according to a second protocol; and
verifying the integrity of the data formatted according to the second protocol.
- [c27] 27.The method of claim 26 further comprising converting the data to a third protocol; identifying the data formatted according to the third protocol; and verifying the integrity of the data formatted according to the third protocol.
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- [c28] 28.The method of claim 26 further comprising emulating a reply to the data.
- [c29] 29.The method of claim 26 wherein converting the data to the second protocol comprises translating the data from the first protocol to the second protocol.
- [c30] 30.The method of claim 26 wherein converting the data to the second protocol comprises encapsulating the data formatted according to the first protocol in a format according to the second protocol.
- [c31] 31.The method of claim 26 further comprising accepting data formatted according to the first protocol, identifying data formatted according to the first protocol, and forwarding data formatted according to the first protocol to a first device which is configured to convert the data from the first protocol to the second protocol.
- [c32] 32.The method of claim 31 further comprising accepting data formatted according to the second protocol from the first device, identifying the data formatted according to the second protocol, and verifying that the data formatted according to the second protocol matches the data formatted according to the first protocol.
- [c33] 33.The method of claim 32 further comprising forwarding data formatted according to the second protocol to a second device which is configured to convert the data from a second protocol to a third protocol.
- [c34] 34.The method of claim 33 further comprising accepting data formatted according to the third protocol from the second device, identifying the data formatted according to the third protocol, and verifying that the data formatted according to the third protocol matches the data formatted according to the second protocol.
- [c35] 35.The method of claim 34 further comprising forwarding the data formatted according to the third protocol to a third device.